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NOTES CONCERNING SOME WEST INDIAN ORCHIDS

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I. THE GENUS BROUGHTONIA AND SOME OF ITS ALLIES

IN 1813, Robert Brown proposed the genus *Broughtonia* to include *Dendrobium sanguineum* Sw. (based on *Epidendrum sanguineum* Sw.). He distinguished it from closely allied genera by the long sepaline tube which is adnate to the ovary and by the four pollinia.

In 1853, Lindley proposed the genus *Laeliopsis* based on *Cattleya domingensis* Lindl. He wrote at the time (in Paxton Flow. Gard. 3, p. 155):

"What is the genus of this beautiful plant? LAELIA? no; because it has only four pollen-masses—BROUGHTONIA? no; for although its flower is deeply cuniculate, yet it has not a long external adnate spur and decurrent sepals—EPIDENDRUM? no; for it wants the unguiculate lip more or less united to the column—CATTLEYA? still no; although we once thought it one; for the flowers are membranous, the veins of the lip bearded, and the habit quite different."

Lindley referred three of his own species to this genus (*Laelia Lindenii* (from Cuba), *Broughtonia chinensis* = **Epidendrum chinense** (*Lindl.*) *Ames* and *Epidendrum cubense*) but failed to make the combinations under *Laeliopsis*. He separated *Laeliopsis* from *Broughtonia* primarily on the basis that the flowers lacked a sepaline tube or as he stated, ". . . . a long external adnate spur

and decurrent sepals." Both genera have four pollinia.

Later in the same year (1853), Lemaire proposed the genus *Cattleyopsis* based on *C. delicatula* (". . . originaire des Grandes Antilles (de Cuba ou de St. Domingne?")). He separated *Cattleyopsis* (eight pollinia) from *Broughtonia* and *Laeliopsis* primarily on the number of pollinia, the last two genera characterized by having species with only four pollinia. He did not compare *Cattleyopsis* with *Laelia*. However, it is separated from that genus primarily in that the pollinia are divided into four pairs, each pair having pollinia of unequal size and shape, whereas the pollinia in *Laelia* are all of equal size and proportion. Lemaire made the mistake of showing all of the eight pollinia of *C. delicatula* as being of the same size and shape. He stated that the flowers of this plant were similar to those of *Laeliopsis domingensis*. Actually they simulate those of that species so perfectly that unless one examines the pollinia it is almost impossible for one to separate them. This is especially true of dried specimens.

It is difficult to understand why Lindley placed *Laelia Lindenii* in the genus *Laeliopsis*. It is true that in describing this species, he wrote, "This is probably the same as *Cattleya ? domingensis*." He failed, however, to state the number of pollinia. Nevertheless, he originally placed it in a genus whose species have eight pollinia (*Laelia*), but at the same time he implied that it was possibly referable to a species in a genus whose components have four pollinia (*Cattleya*). Since he finally included *Laelia Lindenii* in *Laeliopsis* (which has four pollinia) we may assume that he believed this concept actually to have had four pollinia. However, it has been included in *Cattleyopsis* (which has eight pollinia) in all later publications, based doubtless on the plate in A. Richard (in Sagra Hist. Cub. Segunda parte, Hist. Nat. 11 (Fl. Cub. Fanerog. 2) (1850) 243, t. 82) where a plant was illustrated as *Laelia*

Lindenii with eight pollinia (actually a side view of a single pair of pollinia is illustrated showing their unequal size and shape). The plant illustrated was apparently the one which was later described by Lemaire as *Cattleyopsis delicatula*.

Several puzzling questions come to mind in regard to the Richard plate. Why, if this plate was incorrect, did Lindley fail to call attention to its inaccuracies? Why did he refer *Laelia Lindenii* to *Laeliopsis* if Richard's interpretation of this concept were correct? Since Richard's plate was published in 1850, three years before Lindley proposed the genus *Laeliopsis*, it seems probable that he must have seen the plate. It is barely possible that Lindley had examined plants of both species (*Cattleyopsis Lindenii* and *Laeliopsis domingensis*), thinking they were the same, and was somewhat confused in his own mind concerning the actual number of pollinia in *Laelia Lindenii*.

The fact remains that Lindley wrongly referred the Cuban plant with eight pollinia (*Laelia Lindenii*) to *Laeliopsis* (four pollinia) after implying that it was the same as *Cattleya domingensis*. The latter species (*Laeliopsis domingensis*) apparently does not occur in Cuba.

In conclusion, it seems best to recognize three genera in this group of allied plants. They may be separated on technical characters as follows:

Flowers with a long sepaline tube adnate to the ovary; leaves coriaceous, with the margins entire; pollinia 4

1. *Broughtonia*

Flowers without a sepaline tube; leaves fleshy-thickened, rigid, with the margins serrate; pollinia 4 or 8

Pollinia 8, in equal pairs

2. *Cattleyopsis*

Pollinia 4, equal

3. *Laeliopsis*

1. **Broughtonia** *R. Brown* in Aiton Hort. Kew. ed. 2, 5 (1813) 217.

This monotypic genus is composed of the following species.

Broughtonia sanguinea *(Sw.) R. Brown* in Aiton Hort. Kew. ed. 2, 5 (1813) 217.

Epidendrum sanguineum Swartz Prodr. Veg. Ind. Occ. (1788) 124.

Dendrobium sanguineum Swartz in Nov. Act. Ups. 6 (1799) 82.

Broughtonia coccinea Hooker in Bot. Mag. 63 (1836) t. 3536.

Viscum radice bulbosa minus, etc. Sloane Cat. Pl. Jam. (1696) 119.

Satyrium parasiticum, etc. P. Brown Civil & Nat. Hist. Jam. (1756) 324.

There is some doubt as to whether this species occurs in Cuba. Acuña (in Estac. Exper. Agrón. Bol. Téc. 60 (Cat. Descr. Orquíd. Cub.) (1939) 107) gives "Guantánamo, Oriente" without any collector. I have seen a Cuban collection (*Wright 3313*) of *Cattleyopsis Ortgiesiana* (labeled *Broughtonia sanguinea* and reported as such by Grisebach Cat. Pl. Cub. (1866) 263) with the above data on the label. Since these two species are superficially so much alike, it may be that Acuña interpreted this collection as *B. sanguinea*. I have not seen any material of this species from Cuba.

According to Gunter (Orch. Zeyl. 4 (1937) 27), this species is found on trees in many parts of Jamaica (where it is apparently endemic), either where the rainfall is heavy or in regions that are dry during a part of the year. It occurs from near sea level up to 2500 feet altitude and the plants, wherever found, grow luxuriantly and produce flowers which vary in color from deep crimson to light pink with purplish veins.

JAMAICA: Port Antonio, near Lynch's Bay, *Britton 887*; Port Morant, *Rothrock 130* (Herb. Field Mus.); Newtown, *Brues*; near Tweedside, So. St. Andrew, *Harris 9020* (Herb. Field Mus.); "Jamaica", *Lehmann B.T. 122*; east of Montego Bay, *Maxon & Killip 1626*; "Jamaica", *Broadway*; "Jamaica", *Cameron*.[1]

EXCLUDED SPECIES

Broughtonia alba Sprengel Syst. Veg. 3 (1826) 735 = **Maxillaria alba** *Lindl.*

Broughtonia ? amoena Wallich ex Lindley Gen. & Sp. Orch. Pl. (1830) 35, *in synon.* = **Otochilus fusca** *Lindl.*

Broughtonia aurea Lindley in Bot. Reg. 26 (1840) Misc. p. 19 = **Cattleya aurantiaca** (*Batem.*) *P.N.Don.*

Broughtonia caudida Otto in Otto & Dietr. Allg. Gartenz. 5 (1837) 411, *sphalm.* in index = **Broughtonia sanguinea** (*Sw.*) *R. Brown?*

Broughtonia chinensis Lindley ex Bentham in Hook. Lond. Journ. Bot. 1 (1842) 492 = **Epidendrum chinense** (*Lindl.*) *Ames.*

Broughtonia fusca Wallich ex Hooker filius Fl. Brit. Ind. 5 (1890) 844, *in synon.* = **Otochilus fusca** *Lindl.*

Broughtonia grandiflora Sprengel Syst. Veg. 3 (1826) 735 = **Maxillaria grandiflora** *Lindl.*

Broughtonia linearis Wallich ex Lindley Gen. & Sp. Orch. Pl. (1830) 42, *in synon.* = **Coelogyne fimbriata** *Lindl.*

Broughtonia maculata Sprengel Syst. Veg. 3 (1826) 735 = **Maxillaria maculata** *Lindl.*

Broughtonia nitida Herb. ex Sweet Hort. Brit. ed. 3 (1839) 641, *nomen* = **Coelogyne** sp.?

Broughtonia pendula Wallich ex Lindley Gen. & Sp. Orch. Pl. (1830) 35, *in synon.* = **Otochilus alba** *Lindl.*

[1] All of the collections cited, unless otherwise indicated, are to be found in the Ames Herbarium or Gray Herbarium, or both.

Broughtonia pilosa Hooker ex Steudel Nomencl. Bot. ed. 2, 1 (1840) 230=**Otochilus** sp.?

Broughtonia tetragona Sprengel Syst. Veg. 3 (1826) 734=**Phaius tetragonus** *Reichb. f.*

2. **Cattleyopsis** *Lemaire* Jard. Fleur. 4 (1853) Misc. p. 59, figs.

If it were not for the unequal pollinia, this genus might well be referred to *Laelia*.

Flowers rather large; lip free or nearly so, tapering or rounded at the base, 2.5 cm. or more long, with the central nerves fringed, undulate-crisped and crenate or coarsely toothed on the margins

1. *C. Lindenii*

Flowers rather small; lip shortly adnate to the column, cordate at the base, mostly less than 2 cm. long, with the central nerves naked, merely wavy on the margins

2. *C. Ortgiesiana*

1. **Cattleyopsis Lindenii** *(Lindl.) Cogniaux* in Urban Symb. Antill. 6 (1910) 544.

Laelia Lindenii Lindley Orch. Lind. (1846) 10.

Cattleyopsis delicatula Lemaire Jard. Fleur. 4 (1853) Misc. p. 59, figs.

Bletia Lindenii Reichenbach filius in Walp. Ann. Bot. 6 (1862) 431.

Laeliopsis Lindenii (Lindl.) "Lindl." ex Cogniaux in Urban Symb. Antill. 6 (1910) 545.

Cattleyopsis Northropiorum Cogniaux in Urban Symb. Antill. 6 (1910) 545.

Cattleyopsis guanensis Acuña in Estac. Exper. Agrón. Bol. Téc. 60 (Cat. Descr. Orquíd. Cub.) (1939) 109.

An examination of a specimen of *C. Northropiorum* (*John L. & Alice R. Northrop 437* in Herb. Gray No. 4257) upon which Cogniaux based (in part) this concept shows that it is referable to *C. Lindenii*. The flowers of this plant have eight pollinia and are similar in all respects to those of the average *C. Lindenii*. Cogniaux (in

Urban, p. 543) furthermore cited a collection from the Bahamas (*Northrop 448*) as *Broughtonia domingensis* and then proposed *Cattleyopsis Northropiorum* as a new species (p. 545) based (in part) on this same collection.

An examination of a photograph of the type of *C. guanensis* in the Ames Herbarium (No. 58601) and a study of the original description reveals that it is referable to this species. The lip has the characteristic crenate-dentate margin of *C. Lindenii.*

In my opinion, this is the plant found in Jamaica and which was reported and illustrated as *Broughtonia domingensis* by Fawcett and Rendle in their *Flora of Jamaica* 1 (1910) 101. Their illustration of the lip and description of the plant (except for the number of pollinia in the generic description) agrees favorably with this species. I consider Gunter's photograph of *Broughtonia lilacina* (Orch. Zeyl. 4 (1937) opposite p. 28) to be referable to this species.

The flowers of this species vary in color from almost white to dark rose-lilac. It is found on trees and shrubs, usually at low elevations.

Bahama Islands: Garden Cay, West End, *Brace 3660* (Herb. Field Mus.); Nicols Town, Andros, *Northrop & Northrop 437*; Fresh Creek, Andros, *Northrop & Northrop 448c/a* (Herb. Field Mus.); Abaco, near Marsh Harbor, *Barbour*; Fresh Creek settlement, Andros Is., *Wight 201-250*; Johnson Bay, Andros Is., *Lowell*; South Bimini, *Millspaugh 2397*. (Herb. Field Mus.).

Cuba: Habana, punta Brava, *Wright 3287* (reported as *Broughtonia domingensis* by Cogniaux in Urban, l.c., p. 543 and as *Laeliopsis domingensis* by Grisebach Cat. Pl. Cub. (1866) 263); "in Cuba Orientali," *Wright 665* (reported as *Broughtonia sanguinea* by Cogniaux in Urban, l.c., p. 542 and by Grisebach, l.c., p. 263); "in Cuba Orientali" *Wright 667* (reported as *Ionopsis utricularioides* by Grisebach, l. c., p. 267 and as *Broughtonia sanguinea* by Cogniaux in Urban, l.c ., p. 542); Pinar del Río, Guane, *Fors 4837* (Type of *Cattleyopsis guanensis*, photograph seen); Isle of Pines, top of Caballos Mts., *Jennings 230*; Isle of Pines, *Soar*.

Jamaica *Cameron*.

2. **Cattleyopsis Ortgiesiana** (*Reichb. f.*) *Cogniaux* in Urban Symb. Antill. 6 (1910) 546.

Bletia Ortgiesiana Reichenbach filius in Hamb. Gartenz. (1860) 420.

Because of the similarity of the flowers, this species has often been confused with *Broughtonia sanguinea*. However, vegetatively, they are very distinct. The leaves of *C. Ortgiesiana* are very fleshy and rigid and are serrate along the margins, whereas those of *B. sanguinea* are leathery and smooth along the margins. The pseudobulbs are also different in the two species, and the flowers of *C. Ortgiesiana* lack the conspicuous sepaline tube which is characteristic of *B. sanguinea*. The flowers of this species are purple; the sepals and petals usually rose-purple; the lip intensely purple.

This species is apparently endemic to Cuba where it is found on various species of trees in savannas and near the sea coast.

Cuba: Camagüey, north of La Gloria, *Shafer 324*; Camagüey, near Camagüey, *Britton, Britton & Cowell 13143*; Oriente, southeast of Holguin, *Shafer 1295*; Oriente, Guantánamo, *Wright 3313* (reported as *Broughtonia sanguinea* by Cogniaux in Urban, l.c., p. 542 and Grisebach, l.c., p. 263); Santa Clara, Gavilan, *Grey*; Isle of Pines, Loma La Daguilla, *Britton, Britton & Wilson 15165*.

Excluded species

Cattleyopsis rosea Mansfeld in Arkiv. Bot. 20A (1927) 17 = **Epidendrum roseum** *Schltr.* (section Euepidendrum).

3. **Laeliopsis** *Lindley* in Lindley & Paxton Flow. Gard. 3 (1853) 155.

The genus *Laeliopsis* has usually been included in *Broughtonia* on the basis that the number of pollinia is four in each genus. However, vegetatively, they are quite dissimilar. The pseudobulbs of *Broughtonia san-*

guinea are large and ovoid and the leaf is rather thin and smooth along the margin, whereas the pseudobulbs of the species of *Laeliopsis* are usually small and fusiform and the leaves are rigidly fleshy and have sharply serrate margins. The flowers of *Laeliopsis* also lack the sepaline tube which is characteristic of *Broughtonia.*

The species of *Laeliopsis* are very similar, vegetatively, to those of *Cattleyopsis*, and *Laeliopsis domingensis* is superficially so similar in every way to *Cattleyopsis Lindenii* that much confusion has resulted. The similarity of these two species tempts one to unite *Cattleyopsis* and *Laeliopsis.* However, the difference in the number of pollinia would seem to justify keeping them separated.

Lip apiculate, with the margin merely wavy.

1. *L. cubensis*

Lip emarginate, with the margin undulate-fimbriate.

2. *L. domingensis*

1. **Laeliopsis cubensis** (*Lindl.*) "*Lindl.*" *ex Cogniaux* in Urban Symb. Antill. 6 (1910) 543.

Epidendrum cubense Lindley in Bot. Reg. 29 (1843) Misc. p. 17.

Broughtonia cubensis Cogniaux in Urban Symb. Antill. 6 (1910) 542.

The exact status of this concept is not entirely clear and it is not possible to retain it here with complete certainty. However, since Lindley referred this concept to *Laeliopsis* probably it should be retained in that genus. An examination of a photograph of the type in the Ames Herbarium shows that the veins of the lip are ramentaceous as originally described and the lip is shown as broadly elliptic and apiculate. Lindley described the flowers as being "white, with a lip folded up, white at the end, yellow in the middle, and purple, as is the column, near the base."

I have not seen any material of this species. It is apparently restricted to Cuba from whence it was originally collected.

2. **Laeliopsis domingensis** *Lindley* in Lindley & Paxton Flow. Gard. 3 (1853) 155, t. 105.

Cattleya domingensis Lindley Gen. & Sp. Orch. Pl. (1831) 118.

Broughtonia lilacina Henfrey in Moore & Ayres Gard. Mag. Bot. 3 (1851) 201, t.

Broughtonia violacea Hort. ex Moore & Ayres Gard. Mag. Bot. 3 (1851) 201.

Bletia domingensis Reichenbach filius in Walp. Ann. Bot. 6 (1862) 432.

Broughtonia domingensis Rolfe in Gard. Chron. ser. 3, 5 (1889) 491.

As has been stated above, this species is extremely close in habit to *Cattleyopsis Lindenii*. A minor superficial character which seems to be more or less constant and which helps in separating these two entities is that the margin of the lip of *L. domingensis* is usually finely toothed or fringed, whereas the margin of the lip of *C. Lindenii* is commonly crenate or somewhat coarsely toothed. The flowers of this species are usually lilac or purplish, with a few yellow veins in the middle of the lip.

In making the combination, *Broughtonia domingensis*, Rolfe wrote:

> "It has only four pollinia, as Lindley states, though I cannot agree with him as to the absence of the spur. On examining living specimens, I find this organ almost precisely as in *B. sanguinea*."

All of the material of this species which I have examined has no evident sepaline tube. The ovary is often obliquely swollen, giving the impression of a "spur", but there seems to be no extension of the sepals as in *B. sanguinea*. The sepaline tube in *B. sanguinea* is very

conspicuous, with the base usually extended as a short mentum.

This species is apparently endemic to Hispaniola where it is found as an epiphyte on trees and on limestone rocks from near sea level up to 200 meters altitude.

HAITI: Presqu'île du Nord-Ouest, Port-de-Paix, at Saline Michel, *Ekman 3930;* vicinity of La Vallée, Tortue Island, *Leonard & Leonard 15612.*

DOMINICAN REPUBLIC: Barahona, Trujin, *Abbott 1727;* Seibo, La Romana, *Taylor 524;* Cape Samaná, Samaná Peninsula, *Abbott 1185;* Palmarejo, *Eggers 1809.*

EXCLUDED SPECIES

Laelia domingensis Millspaugh in Field Columb. Mus. Bot. 2 (Plantae Utowanae) (1900) p. 32 (Publ. 43), *excl. synon.* = **Epidendrum bifidum** *Aubl.*

At the time he made the combination, *Laelia domingensis*, Millspaugh cited a specimen (supposedly of this species) from Puerto Rico ("Sand dunes and grassy fields near the sea, Cataño and Santurce (277), Porto Rico. Tuber 2-leaved, leaves 18–24 × 4.2 cm., scape nude, whitish, 112 cm. high; flowers, few apical rose colored.") An examination of this specimen shows that it is *Epidendrum bifidum* Aubl.

Laeliopsis chinensis (Lindl.) "Lindl." ex Reichenbach f. in Saunders Refug. Bot. 2 (1882) sub. t. 139, *in synon.* = **Epidendrum chinense** (*Lindl.*) *Ames.*

II. CONCERNING ACUÑA'S CATALOGUE OF CUBAN ORCHIDS

In Acuña's *Catálogo Descriptivo de las Orquídeas Cubanas* seventy-nine genera and two hundred and seventy-two species were included, five of which were invalidly published as new species since they lacked Latin diagnoses. Williams pointed out in his review of the Catalogue (Bot. Mus. Leafl. Harvard Univ. 7 (1939) 181-182) that

although dated "Junio de 1938" the actual date of publication of the Catalogue was possibly about June 5, 1939.

With the intention of validating, if necessary, these proposed new species of Acuña, a study was undertaken of all the available data and a report concerning them is included here. An effort was made in my behalf by Dr. J. P. Carabia to borrow all of the types. In view of his failure to do so, I have had to rely upon photographs of most of the types, along with the original descriptions, in order to arrive at my conclusions. *Hormidium Hiorami* Acuña & Roig (in Mem. Soc. Cubana Hist. Nat. 10 (1936) 51) is also considered in this paper.

Some additional notes concerning some of the other Cuban orchids have been included. Also, any additional distribution data which supplement those given by Acuña are included at the end of the treatment of each species. All of the specimens cited, unless otherwise indicated, are to be found in the Ames Herbarium or in the Gray Herbarium, or both.

Habenaria Brittonae *Ames* in Torreya 12 (1912) 11.

This species, which was originally compared with *H. repens* Nutt., seems to be most closely related to *H. alata* Hook. The pedicellate ovary is crested with a prominent, sharp wing and also has several additional broad ribs without wings, thus placing it in an alliance with *H. alata*. The flowers, except for the constantly 3-lobed lip with short filiform lateral lobes, are similar to those of *H. alata*. The plant differs from *H. alata* not only in the smaller flowers and constantly 3-lobed lip but also in the slenderer and more densely flowered raceme and conspicuously reduced leaves. The raceme of *H. Brittonae* averages less than 1.5 cm. in diameter, whereas that of *H. alata* averages about 3.5 cm. in di-

ameter. The leaves of *H. Brittonae* are little more than reduced, clasping, equitant sheaths, whereas those of *H. alata* are rather large, broad and prominent. The spur of *H. Brittonae* is almost constantly 9 mm. long, whereas the spur of *H. alata* averages about 11 mm. in length.

It is interesting to note that sufficient material of this rare species was recently obtained in Cuba *(Hodge, Howard & Godfrey 4761)* to produce a number of Plantae Exsiccatae Grayanae.

This species is apparently endemic to Cuba.

CUBA: Santa Clara, vicinity of Sopapo, Buenos Aires, Trinidad Mountains, *Smith, Hodgdon & Gonzalez 3343*; Santa Clara, open grassy plateau, Buenos Aires, 20 miles east of Soledad, alt. 3000 ft., plant seldom over 8-10 inches, fls. green, Sept. 9, 1940, *Hodge, Howard & Godfrey 4761.*

Habenaria repens *Nuttall* Gen. No. Amer. Pl. 2 (1818) 190.

Orchis repens Rafinesque Neogenyton (1825) 4, *nomen*, sub Mesicera—Wood in Amer. Bot. & Flor. (1870) 328.

Platanthera repens Wood Class-book of Botany (1861) 685.

Habenaria Nuttallii Small Flora Southeastern U.S. ed. 1 (1903) 315.

Habenaria palustris Acuña in Estac. Exper. Agrón. Bol. Téc. 60 (Cat. Descr. Orquíd. Cub.) (1939) 15.

An examination of a photograph of the type of *H. palustris* in the Ames Herbarium (No. 58600) and a study of the original description reveals that it is referable to *H. repens.*

Habenaria repens grows in ditches, streams, swamps, ponds and on lake shores and is often found on floating weed mats on the surface of the water. It is also found in miry meadows, fresh-water marshes and bogs. The name *(palustris)* implies growing in this type of habitat and

the roots, as shown in the photograph, are produced along a central axis as in *H. repens*.

This species occurs from Virginia to Florida along the Atlantic seaboard, along the Gulf Coast to Louisiana and Texas, throughout Central and South America and the West Indies.

CUBA: Santa Clara, propio de Sto. Tomas, Cienaga de Zapata, July 23, 1920, *Roig & Cremata 2211* (TYPE of *H. palustris*, photograph seen).

Habenaria replicata *A. Richard* in Sagra Hist. Cub. Segunda parte, Hist. Nat. 11 (Fl. Cub. Fanerog. 2) (1850) 250, t. 86.

Acuña (p. 17) included *Habenaria (Gymnadeniopsis) nivea* (Nutt.) Spreng. in his flora, based on a report of this species having been found in Cuba. I have seen no material of this species from outside the United States. The report of its being in Cuba was based on a collection of *H. replicata*, a plant which simulates *H. nivea* very closely in habit. *Habenaria replicata* commonly has a loosely flowered, somewhat secund raceme and a lip which is angled or lobulate near or just below the middle, whereas *H. nivea* commonly has a densely flowered, cylindrical-conical raceme and a lip which is not angled nor lobulate at the middle but is rather dilated above the middle.

It is interesting to note that sufficient material of this rare species was recently obtained in Cuba (*Hodge, Howard & Godfrey 4777*) to produce a set (1038) of Plantae Exsiccatae Grayanae.

This species is apparently endemic to Cuba.

CUBA: Pinar del Río, Laguna Santa María, *Britton, Britton & Gager 7126*; Pinar del Río, Sierra de Cabra, on Guane Road, *Britton, Britton & Gager 7272*; Santa Clara, abundant on open grassy plateau, Buenos Aires, Trinidad Mountains, 20 miles east of Soledad, Cienfuegos, fls. white, alt. 900 m., Sept. 9, 1940, *Hodge, Howard & Godfrey 4777*; Isle of Pines, McKinley, *Chrysler* (Oberlin College Herb.).

Corymborchis cubensis *Acuña ex Correll* in Bot. Mus. Leafl. Harvard Univ. 8 (1940) 125—Acuña in Estac. Exper. Agrón. Bol. Téc. 60 (Cat. Descr. Orquíd. Cub.) (1939) 51, without Latin diagnosis.

Chloidia flava Grisebach Fl. Brit. West Ind. (1864) 643 (as to description, not as to synonymy).

Corymborchis flava Hemsley *sensu* Cogniaux in Urban Symb. Antill. 6 (1909) 365, *excl. synon.*

A comprehensive treatment of this species may be found in the writer's publication cited above. The species was validated at that time.

Corymborchis cubensis is found in Mexico, Central America and throughout the West Indies.

CUBA: Oriente, Monte Verde, *Wright 1471, 3312*; Oriente, El Yunque, Mt. Baracoa, *Underwood and Earle 685* (Herb. N.Y. Bot. Gard.); Oriente, Farallon de la Perla, *Shafer 8763* (Herb. N.Y. Bot. Gard.); Oriente, side and top of El Yunque, *Shafer 8001* (TYPE in Herb. N.Y. Bot. Gard.; ISOTYPE in Herb. Ames No. 14353); Oriente, Loma del Gato, Sierra Maestra, *Clement 489* (Herb. N.Y. Bot. Gard.); Pinar del Río, Pan de Gualjaibón, highest mountain of Sierra de los Organos, *Ekman 12753* (U.S. Nat. Herb.).

Malaxis spicata *Swartz* Prodr. Veg. Ind. Occ. (1788) 119.

Microstylis spicata Lindley Gen. & Sp. Orch. Pl. (1830) 19.

Microstylis floridana Chapman Flora Southern U.S. ed. 1 (1860) 454.

Malaxis floridana Kuntze Rev. Gen. Pl., pt. 2 (1891) 673.

Achroanthes floridana Greene in Pitton. 2 (1891) 183.

Malaxis Brittonii Acuña in Estac. Exper. Agrón. Bol. Téc. 60 (Cat. Descr. Orquíd. Cub.) (1939) 57.

An examination of a photograph of the type (extremely poor) of *M. Brittonii* in the Ames Herbarium (No. 58599) and a study of the original description reveals that it is referable to *M. spicata*. The corm and basal

leaf is missing from the type specimen and only a few buds are evident at the apex of the raceme. The floral measurements agree with those of the smallest specimens we have seen of this species from Florida and the West Indies.

This species is found in Virginia, South Carolina, Georgia, Florida, the Bahama Islands and throughout the West Indies.

CUBA: Camagüey, Caobilla, finca "La Ciega," Sept. 2, 1926, *Acuña 4026* (TYPE of *M. Brittonii*, photograph seen); Oriente, *Wright 1696*; Santa Clara, western slopes of Mt. Naranjal above San Blas, Trinidad Mountains, *Smith, Hodgdon & Gonzalez 3244*.

Epidendrum pygmaeum *Hooker* in Bot. Mag. 60 (1833) t. 3233.

Coelogyne ? triptera Brongniart in Duperry Voyage Coquille Phanerog. (1834) 201, t. 42, fig. A, nec *Epidendrum tripterum* Sm., nec *E. tripterum* Lindl.

Epidendrum caespitosum Poeppig & Endlicher Nov. Gen. ac Sp. 2 (1838) 1, t. 101.

Epidendrum uniflorum Lindley in Bot. Reg. 25 (1839) Misc. p. 15.

Epidendrum monanthum Steudel Nomencl. Bot. ed. 2 (1840) 558.

Hormidium uniflorum Heynhold Nomencl. Bot. Nachtr. (1841) 880.

Hormidium pygmaeum Bentham & Hooker filius ex Hemsley in Gard. Chron. n.s. 19 (June 1883) 700 and in Godman & Salvin Biol. Centr.-Am. Bot. 3 (Nov. 1883) 218.

Aulizeum pymaeum "Ldl." ex Stein Orchideenb. (1892) 236, *sphalm, in synon.*

Hormidium tripterum Cogniaux in Martius Fl. Bras. 3, pt. 5 (1898) 29.

Hormidium pseudo-pygmaeum A. Finet in Bull. Herb. Boiss. 7 (1899) 121, t. 3.

Microstylis humilis Cogniaux in Martius Fl. Bras. 3, pt. 6 (1906) 550, t. 114, fig. 4.

? *Hormidium Hiorami* Acuña & Roig in Mem. Soc. Cubana Hist. Nat. 10 (1936) 51.

It has not been possible for me to see the type of *Hormidium Hiorami.* However, a study of the original description convinces me that it is very probably referable to the extremely variable *Epidendrum pygmaeum.* Until it is possible to examine the type or a photograph of the type of *H. Hiorami*, with some reservation it seems best to include it in this species. *Hormidium Hiorami*, was invalidly published since no Latin diagnosis was given by its authors.

This species occurs in southern Florida, Mexico, throughout Central America to Panama, Cuba, Jamaica, Puerto Rico and northern South America.

Epidendrum ramosum *Jacquin* var. **lanceolatum** *Grisebach* Fl. Brit. West Ind. (1864) 614.

Spathiger Roigii Acuña in Estac. Exper. Agrón. Bol. Téc. 60 (Cat. Descr. Orqúid. Cub.) (1939) 93.

An examination of the type of *Spathiger Roigii* (in Herb. New York Bot. Gard.) and a comparison of this material with a sheet in the Gray Herbarium of *Epidendrum ramosum* var. *lanceolatum* (*Wright 3333*, cited by Grisebach Cat. Pl. Cub. (1866) 263) shows that these two plants are identical. The type of *Spathiger Roigii* is also identical with a sheet in the Ames Herbarium (No. 7055) which was compared by Ames with authentic material of *E. ramosum* var. *lanceolatum* at the British Museum.

Variety *lanceolatum* differs from the typical form of the species (and its other varieties) mainly in the type of inflorescence and the somewhat larger flowers. The flowers, instead of being borne in a raceme as in the

other segregates of this species, are borne singly or several in a cluster at the apex of the short lateral branches. Each flower is subtended by several to many closely appressed imbricated bracts and, if clustered, the flowers are borne on separate peduncles. The leaves are usually longer than those of the typical form of the species.

Variety *lanceolatum* occurs as an epiphyte on trees at low elevations.

GUATEMALA: Alta Verapaz, Chamá, pendent, fls. dark reddish brown, hangs down in long festoons, 900 ft. alt., *Johnson 267*.

HONDURAS: Atlantida, near Tela, Lancetilla Valley, *Ames*.

PANAMA: Bocas del Toro, Río Cricamola, between Finca St. Louis and Konkintoe, 10-50 m. alt., *Woodson, Allen & Seibert 1898*.

CUBA: Pinar del Río, trail from Buenaventura to San Juan de Guacamalla, on tree along small stream, *Wilson 9329* (TYPE of *Spathiger Roigii* in Herb. New York Bot. Gard.; ISOTYPE in Herb. Gray); Pinar del Río, river valley, La Sierra de los Organas, near Cayajabos, *Ames*; Santa Clara, Montañas de Trinidad, *Acuña*; Santa Clara, Trinidad Mountains, Hanabanilla Falls, *Britton, Earle & Wilson 4863*.

Cattleyopsis guanensis Acuña in Estac. Exper. Agrón. Bol. Téc. 60 (Cat. Descr. Orquíd. Cub.) (1939) 109 = **Cattleyopsis Lindenii** *(Lindl.) Cogn.*

The reduction of *Cattleyopsis guanensis* is discussed in the first section of this paper.